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China, Peoples Republic of

Dairy and Products

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Report Highlights: In line with growing demand, dairy cattle numbers and dairy production continue to show solid growth in China. However, limits in technology, feed, and genetics are constraints on the pace of growth. Higher world prices in 2001 are checking dairy product import growth. In the long-run, however, import growth of non-fluid products should continue due to limits on Chinese land and water resources, and lower tariffs after China's WTO entry.

Includes PSD changes: Yes
Includes Trade Matrix: No
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I. Situation and Outlook

China's demand for dairy products continued to increase quickly in 2000 and the first half of 2001. This has prompted continued increases in dairy production. China Dairy Product Industry Association data show that dairy production growth was much stronger during the first half of 2001 than during the same period last year. Demand grew most for fluid milk, including yoghurt and flavored dairy drinks. Demand for ice cream also grew greatly. Ice cream, which used to be consumed mostly during warm weather, is now being consumed in larger quantities year-round. This trend is expected to continue for at least the next few years.

Even with recent strong growth, China's per capita milk consumption is still only about 7 kg.--among the lowest in the world. As incomes rise and more consumers, especially the younger generation, develop a taste for dairy products, the potential for a large increase in the consumption of dairy products will rise.

Although slightly larger than originally forecast, the January dairy cattle inventory probably was not as large as it could have been. This was mainly due to snow storms in the Northeast and Northwest at the end of last year. The growth rate of the dairy herd size for the first half of 2001 was higher than for the same period last year. Competition in both dairy production and processing has intensified. The competition has led to better management and to the application of more advanced technology in the dairy industry. On average, farmers can earn RMB3,000 (\$363) a year for raising one cow. This is considered a good return and acts as an incentive for continued increases in dairy production.

Although both dairy cow inventories and milk production will continue to rise, it is still unclear how large the national herd will be when growth rates begin to stabilize. Several factors may constrain dairy development. Although production efficiency has improved quickly in large cities like Beijing, Shanghai and Tianjin, the dairy industry, as a whole, will take time to reach optimum efficiency. The lack of arable land and water for both farming and good forage development are also concerns. Changes in government policy, which now forbid over-grazing of forage land in such places as Inner Mongolia, will limit dairy herd increases. With more stringent quarantine procedures now in place, the importation of feed and genetics may also suffer. Finally, the responsibility to promote China's dairy production, processing, distribution and trade falls to a number of different government agencies. Therefore promotional efforts are not co-ordinated and may not be efficient.

In 2000, domestic production could not keep pace with soaring demand. Even though world prices have increased sharply in 2001, imports by volume will at least match 2000 imports. It is expected that powdered milk and whey imports will continue to grow in the future. Significantly lowered tariff rates that will go into effect for yoghurt, butter, and cheese after China enters the WTO, should also mean increased imports of these products.

II. Tables

PSD Table						
Country	China, Peoples Republic of					
Commodity	Dairy, Milk, Fluid				(1000 HEAD)	(1000 MT)
	Revised	2000	Preliminary	2001	Forecast	2002
	Old	New	Old	New	Old	New
Market Year Begin		01/2000		01/2001		01/2002
Cows In Milk	2280	2280	2340	2348		2418
Cows Milk Production	7800	8274	8550	8660	0	9067
Other Milk Production	927	917	950	950	0	995
TOTAL Production	8727	9191	9500	9610	0	10062
Intra EC Imports	0	0	0	0	0	0
Other Imports	21	15	25	10	0	12
TOTAL Imports	21	15	25	10	0	12
TOTAL SUPPLY	8748	9206	9525	9620	0	10074
Intra EC Exports	0	0	0	0	0	0
Other Exports	27	29	28	26	0	26
TOTAL Exports	27	29	28	26	0	26
Fluid Use Dom. Consum.	3357	3813	4082	4133	0	4489
Factory Use Consum.	5364	5364	5415	5461	0	5559
Feed Use Dom. Consum.	0	0	0	0	0	0
TOTAL Dom. Consumption	8721	9177	9497	9594	0	10048
TOTAL DISTRIBUTION	8748	9206	9525	9620	0	10074
Calendar Yr. Imp. from U.S.	0	0	1	0	0	0
Calendar Yr. Exp. to U.S.	0	0	0	0	0	0

PSD Table						
Country	China, Peoples Republic of					
Commodity	Dairy, Dry Whole Milk Powder				(1000 MT)	
	Revised	2000	Preliminary	2001	Forecast	2002
	Old	New	Old	New	Old	New
Market Year Begin		01/2000		01/2001		01/2002
Beginning Stocks	0	0	0	0	0	0
Production	450	522	450	540	0	545
Intra EC Imports	0	0	0	0	0	0
Other Imports	70	51	71	50	0	55
TOTAL Imports	70	51	71	50	0	55
TOTAL SUPPLY	520	573	521	590	0	600
Intra EC Exports	0	0	0	0	0	0
Other Exports	0	10	0	20	0	20
TOTAL Exports	0	10	0	20	0	20
Human Dom. Consumption	520	563	521	570	0	580
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	520	563	521	570	0	580
TOTAL Use	520	573	521	590	0	600
Ending Stocks	0	0	0	0	0	0
TOTAL DISTRIBUTION	520	573	521	590	0	600
Calendar Yr. Imp. from U.S.	2	0	2	2	0	2
Calendar Yr. Exp. to U.S.	0	0	0	0	0	0

PSD Table						
Country	China, Peoples Republic of					
Commodity	Dairy, Milk, Nonfat Dry				(1000 MT)	
	Revised	2000	Preliminary	2001	Forecast	2002
	Old	New	Old	New	Old	New
Market Year Begin		01/2000		01/2001		01/2002
Beginning Stocks	0	0	0	0	0	0
Production	50	58	50	70	0	80
Intra EC Imports	0	0	0	0	0	0
Other Imports	30	22	40	22	0	25
TOTAL Imports	30	22	40	22	0	25
TOTAL SUPPLY	80	80	90	92	0	105
Intra EC Exports	0	0	0	0	0	0
Other Exports	0	0	0	0	0	0
TOTAL Exports	0	0	0	0	0	0
Human Dom. Consumption	80	80	90	92	0	105
Other Use, Losses	0	0	0	0	0	0
Total Dom. Consumption	80	80	90	92	0	105
TOTAL Use	80	80	90	92	0	105
Ending Stocks	0	0	0	0	0	0
TOTAL DISTRIBUTION	80	80	90	92	0	105
Calendar Yr. Imp. from U.S.	2	2	2	2	0	0
Calendar Yr. Exp. to U.S.	0	0	0	0	0	0

MILK PRODUCTION BY PROVINCE, 1999-2000 (1,000 Metric Tons, %)					
PROVINCE	Total Milk Production	Cow Milk Production	Total Milk Production	Cow Milk Production	Share of Total Cow Milk
	(1999)	(1999)	(2000)	(2000)	(2000)
Beijing	241	240	304	303	3.7%
Tianjin	129	129	165	165	2.0%
Hebei	788	684	962	842	10.2%
Shanxi	327	302	359	335	4.0%
Inner Mongolia	712	679	830	798	9.6%
Liaoning	203	182	219	189	2.3%
Jilin	145	138	150	143	1.7%
Heilongjiang	1,450	1,428	1,565	1,543	18.6%
Shanghai	259	259	259	259	3.1%
Jiangsu	163	162	257	255	3.1%
Zhejiang	91	91	112	112	1.4%
Anhui	36	36	41	41	0.5%
Fujian	80	77	99	96	1.2%
Jiangxi	52	52	58	56	0.7%
Shandong	613	356	705	457	5.5%
Henan	159	103	202	161	1.9%
Hubei	40	39	59	56	0.7%
Hunan	10	10	11	11	0.1%
Guangdong	81	78	95	92	1.1%
Guangxi	13	13	17	17	0.2%
Hainan	n.a.	n.a.	n.a.	n.a.	n.a.
Chongqing	47	47	56	56	0.7%
Sichuan	269	266	289	285	3.4%
Guizhou	15	15	17	17	0.2%
Yunnan	135	122	147	130	1.6%
Tibet	209	167	204	162	2.0%
Shaanxi	557	323	639	392	4.7%
Gansu	138	134	137	133	1.6%
Qinghai	196	190	213	206	2.5%
Ningxia	205	205	236	236	2.9%
Xinjiang	704	648	782	725	8.8%
TOTAL	8,069	7,176	9,191	8,274	100.0%
Source: National Statistical Bureau (previously named State Statistical Bureau)					
(f:\shared\lotus\dairy\mlkprv)					

PER CAPITA CONSUMPTION OF SELECTED DAIRY PRODUCTS				
1992 - 2000(Kilograms)				
	Urban Area			Rural Area
Year	Fresh Milk	Powdered Milk	Yogurt	Fresh Milk
1992	5.52	0.43	0.37	1.46
1993	5.38	0.42	0.32	0.85
1994	5.25	0.42	1.04	0.67
1995	4.62	0.35	0.26	0.64
1996	4.83	0.41	0.32	0.8
1997	5.07	0.41	0.44	0.95**
1998	6.18	0.43	0.64	n/a
1999	7.88	0.44	0.87	n/a
2000	9.94	0.49	1.12	n/a
** Refers to milk and other dairy products.				
Source: Urban data are from the China Statistical Yearbook and rural data are				
from the China Rural Statistical Yearbook				
(f:\shared\lotus\dairy\consumpt)				

SUMMARY OF CHINA'S DAIRY IMPORTS (QUANTITY), 2000-2001			
(Metric Tons)			
			Share of
			Product Trade
PRODUCTS	2000	2001	2001
		(Through June)	(Through June)
DIRECT			
Fluid Milk (0401)	14,910	4,811	5%
Powdered Milk and Cream (0402)	73,415	35,464	35%
Fermented and Acidified Milk (0403)	2,554	1,423	1%
Whey and Related Products (0404)	122,903	57,876	57%
Butter and Related Products (0405)	3,088	617	1%
Cheese and Related Products (0406)	1,968	1,090	1%
TOTAL	218,838	101,281	100%
Source: China Customs and Hong Kong Customs			
(f:\shared\lotus\dairy\summry01)			

SUMMARY OF CHINA'S DAIRY IMPORTS (VALUE), 2000-2001			
(US\$1,000, %)			
			Share of
			Product Trade
Products (HS Code)	2000	2001	2001
		(Through June)	(Through June)
DIRECT			
Fluid Milk (0401)	8,871	2,761	2%
Powdered Milk and Cream (0402)	115,680	68,480	58%
Fermented and Acidified Milk (0403)	1,519	988	1%
Whey and Related Products (0404)	79,964	43,202	37%
Butter and Related Products (0405)	4,749	900	1%
Cheese and Related Products (0406)	3,917	1,711	1%
Total	214,700	118,042	100%
Source: China Customs			
(f:\shared\lotus\dairy\summary01)			

CHINA'S FLUID MILK DIRECT IMPORTS BY FAT CONTENT				
AND BY COUNTRY OF ORIGIN, 2000 (Metric Tons)				
COUNTRY	Fat 1% or lower	Fat > 1% - 6%	Fat > 6%	TOTAL
	(HS# 0401.1000)	(HS# 0401.2000)		(HS# 0401.3000)
Australia	971	4,027	5,725	10,723
New Zealand	408	422	666	1,496
Malaysia	0	7	1,322	1,329
Netherlands	100	225	38	363
France	0	12	173	185
Germany	175	0	0	175
United States	10	0	3	13
Others	225	48	353	626
TOTAL	1,889	4,741	8,280	14,910
Source: China Customs				
(f:\shared\lotus\dairy\fldim00)				

CHINA'S FLUID MILK DIRECT IMPORTS BY FAT CONTENT				
AND BY COUNTRY OF ORIGIN, 2001 (Metric Tons)				
COUNTRY	Fat 1% or lower	Fat > 1% - 6%	Fat > 6%	TOTAL
	(HS# 0401.1000)	(HS# 0401.2000)	(HS# 0401.3000)	
	(Thru June)	(Thru June)	(Thru June)	(Thru June)
Australia	197	1,578	1,719	3,494
New Zealand	77	114	258	449
Czech	0	150	0	150
United States	2	135	12	149
France	0	0	111	111
Malaysia	0	0	30	30
Germany	0	0	10	10
Others	0	71	0	71
TOTAL	276	2,048	2,140	4,464
Source: China Customs				
(f:\shared\lotus\dairy\fldim00)				

CHINA'S POWDERED MILK DIRECT IMPORTS BY FAT CONTENT AND BY COUNTRY OF ORIGIN, 2000 (Metric Tons)				
ORIGIN	Fat < 1.5% 1/ (HS# 0402.1000)	Fat > 1.5% 2/ (HS# 0402.2100)	Fat > 1.5% 3/ (HS# 0402.2900)	TOTAL
New Zealand	8,769	31,168	9,609	49,546
Australia	3,995	2,100	1,553	7,648
Ireland	2,462	497	69	3,028
United Kingdom	604	0	2,401	3,005
France	484	1,718	338	2,540
Russia	1,233	81	0	1,314
United States	832	73	50	955
Germany	500	347	48	895
Netherlands	580	178	96	854
Lithuania	775	0	0	775
Belgium	600	0	0	600
Spain	264	0	0	264
Canada	0	0	275	275
Sweden	258	0	0	258
Uruguay	250	0	0	250
Other	273	39	250	562
TOTAL	21,879	36,201	14,689	72,769
1/ With sugar or other sweetening matter				
2/ Without sugar or other sweetening matter				
3/ With sugar or other sweetening matter				
Source: China Customs				
(f:\shared\lotus\dairy\pdrmqi00)				

CHINA'S DIRECT IMPORTS OF WHEY BY ORIGIN, 2000-2001		
(Metric Tons)		
ORIGIN	2000	2001
		(Through June)
U.S.A.	36,080	17,984
France	36,410	13,211
Canada	13,348	6,657
Australia	9,312	6,071
Finland	6,015	5,624
Netherlands	12,511	4,446
New Zealand	1,158	1,809
Germany	2,729	730
Poland	2,385	565
Czech Republic	415	425
Ireland	1,290	218
Belgium	9	50
South Korea	75	20
Sweden	550	0
Other	616	66
TOTAL	122,903	57,876
HS Code: 0404.1000, 0404.9000		
Source: China Customs		
(f:\shared\lotus\dairy\ttlwhey1)		

CHINA'S CREAM IMPORTS BY COUNTRY OF ORIGIN, 2000			
(Full Fat Metric Tons)			
	HS#	HS#	
ORIGIN	HS# 0429.9100	HS# 0429.9900	TOTAL
New Zealand	4	314	318
Australia	37	134	171
Malaysia	44	0	44
Vietnam	0	23	23
United States	3	0	3
Singapore	1	0	1
Other	62	25	87
TOTAL	151	496	647
Source: China Customs (f:\shared\lotus\dairy\othrqi00)			

CHINA'S CREAM IMPORTS BY COUNTRY OF ORIGIN, 2001			
(Full Fat Metric Tons)			
	HS#	HS#	
ORIGIN	HS# 0429.9100	HS# 0429.9900	TOTAL
			(Thru June)
New Zealand	142	299	441
Singapore	42	0	42
Australia	0	36	36
Malaysia	35	0	35
Vietnam	0	19	19
United States	0	3	3
Other	21	0	21
TOTAL	240	357	597
Source: China Customs (f:\shared\lotus\dairy\othrqi01)			

SUMMARY OF CHINA'S TOTAL DIRECT DAIRY EXPORTS, 2000 (Metric Tons, US\$ 1,000, %)				
Products (HS Code)	Volume	Share	Value	Share
Fluid Milk (0401)	29,417	61%	20,120	40%
Powdered Milk and Cream (0402)	17,415	36%	27,926	56%
Fermented and Acidified Milk (0403)	162	0%	200	0%
Whey and Related Products (0404)	334	1%	300	1%
Butter and Related Products (0405)	223	0%	353	1%
Chese and Related Products (0406)	407	1%	1,175	2%
TOTAL	47,958	100%	50,074	100%
Source: China Customs				
(f:\shared\lotus\dairy\ttlexp00)				

CHINA'S TOTAL DIRECT DAIRY EXPORTS, 2001 (Metric Tons, US\$ 1,000, %)				
Products (HS Code)	Volume	Share	Value	Share
Fluid Milk (0401)	12,829	63%	8,944	48%
Powdered Milk and Cream (0402)	7,135	35%	8,914	48%
Fermented and Acidified Milk (0403)	23	0%	27	0%
Whey and Related Products (0404)	156	1%	106	1%
Butter and Related Products (0405)	0	0%	0	0%
Chese and Related Products (0406)	230	1%	602	3%
TOTAL	20,373	100%	18,593	100%
Source: China Customs				
(f:\shared\lotus\dairy\ttlexp01)				

CHINA'S DIRECT EXPORTS OF FLUID MILK BY FAT CONTENT AND BY COUNTRY OF ORIGIN, 2000 (Metric Tons)				
ORIGIN	Fat 1% or lower	Fat > 1% - 6%	Fat > 6%	TOTAL
	(HS# 0401.1000)	(HS# 0401.2000)	(HS# 0401.3000)	
Hong Kong	0	27285	21	27,306
Singapore	0	1,821	0	1,821
Macau	0	239	0	239
Other	0	51	0	51
TOTAL	0	29,396	21	29,417
Source: China Customs				
(f:\shared\lotus\dairy\fldexp00)				

CHINA'S DIRECT EXPORTS OF FLUID MILK BY FAT CONTENT AND BY COUNTRY OF ORIGIN, 2001 (Metric Tons)				
ORIGIN	Fat 1% or lower	Fat > 1% - 6%	Fat > 6%	TOTAL
	(HS# 0401.1000)	(HS# 0401.2000)	(HS# 0401.3000)	(Thru June)
Hong Kong	0	11997	1	11,998
Singapore	0	687	0	687
Macau	0	145	0	145
Other	0	0	0	0
TOTAL	0	12,829	1	12,830
Source: China Customs				
(f:\shared\lotus\dairy\fldexp01)				

CHINA'S DIRECT EXPORTS OF POWDERED MILK BY FAT CONTENT AND BY COUNTRY OF ORIGIN, 2000 (Metric Tons)				
ORIGIN	Fat < 1.5% 1/ (HS# 0402.1000)	Fat > 1.5% 2/ (HS# 0402.2100)	Fat > 1.5% 3/ (HS# 0402.2900)	TOTAL
Iraq	0	4,489	502	4,991
Myanmar	45	67	2,545	2,657
Philippines	0	1,021	0	1,021
Hong Kong	82	443	328	853
Thailand	0	112	0	112
Other	5	0	187	192
TOTAL	132	6,132	3,562	9,826
1/ With sugar or other sweetening matter				
2/ Without sugar or other sweetening matter				
3/ With sugar or other sweetening matter				
Source: China Customs				
(f:\shared\lotus\dairy\pdrmqe00)				

CHINA'S DIRECT EXPORTS OF POWDERED MILK BY FAT CONTENT				
AND BY COUNTRY OF ORIGIN, 2001 (Metric Tons)				
ORIGIN	Fat < 1.5% 1/ (HS# 0402.1000)	Fat > 1.5% 2/ (HS# 0402.2100)	Fat > 1.5% 3/ (HS# 0402.2900)	TOTAL (Thru June)
Myanmar	0	45	1,165	1,210
Hong Kong	161	307	0	468
Mongolia	45	215	0	260
Singapore	100	0	0	100
Iraq	0	81	0	81
Philippines	0	74	0	74
Other	2	146	77	225
TOTAL	308	868	1,242	2,418
1/, 3/ With sugar or other sweetening matter				
2/ Without sugar or other sweetening matter				
Source: China Customs				
(f:\shared\lotus\dairy\pdrmqe01)				

CHINA'S TARIFF RATES FOR DAIRY PRODUCTS, 2000-2001(%)					
	2000		2001		2001
PRODUCTS	MFN	General	MFN	General	VAT
Fluid milk	25	40	23-25	40	17
Powdered milk	25	40	25	40	17
Milk and Cream	50	90	44	90	17
Yogurt	50	90	42	90	17
Butter milk	50	90	44	90	17
Whey and modified whey	6	30	6	30	17
Other whey products	50	90	44	90	17
Butter and dairy spreads	50	90	44	90	17
Cheese and curd	50	90	44	90	17
Source: China Customs					
(f:\shared\lotus\dairy\tarff0-1)					

III NARRATIVE ON SUPPLY AND DEMAND, POLICY AND MARKETING

RAW MILK PRODUCTION

Two government sources exist for Chinese dairy statistics—the National Bureau of Statistics and the Ministry of Agriculture. The National Statistic Bureau only provides data for milk production. They indicate that total bovine milk production for 2000 was 8.27 MMT, up 15 percent over the previous year. The data from the Ministry of Agriculture put total milk production at 7.82 MMT for 2000. The Ministry of Agriculture number for end-of -year total dairy cattle inventory is 4.56 million head for 2000. Based on industry information, Post estimates that 55 percent of these cattle are in milk. The Ministry also estimates fluid milk production at 4.3 MMT for the first half of 2001. Although differences exist, and will continue to exist, between the two statistics-gathering organizations, all sources agree that herd and milk production have been increasing rapidly and will continue to grow as Chinese demand for milk is increasing. For farmers, raising milk cows is often more profitable than producing grain.

Recent increases in capacity are leading to fierce competition among processors for limited supplies of fresh milk. There is a total of about 3,000 dairy companies, many of which are new. More than 10 large foreign companies have entered the Chinese dairy market. Large foreign and domestic dairy companies are merging with smaller dairies, buying shares in each other's dairies, entering into joint ventures, or entering into licenced production arrangements in order to increase their access to milk. Despite the glut of capacity, new investments in dairy projects continue. Quite a few are being built in less developed areas such as Xinjiang, Guizhou, and Shanxi. Most of the newly invested projects are targeted for fluid milk production, especially for UHT milk.

There are several constraints on growth in production. First, the efficiency of production operations is low, and improvements are slow. Most cows are still raised by households with poor technology and genetics. Less than half the national herd is made up of animals that are purebred dairy stock. The rest are crossbred, primarily between Holstein and local Chinese draft breeds. The average annual yield per cow is low at only around 3,000 kg. Farmers lack sufficient knowledge about feeding, breeding and disease control. They also lack market information which leads to uneven and often economically irrational growth. Over 50 percent of milking is still done by hand. Many small farmers cannot meet the stricter standards on fresh milk which modern processing requires.

In the long-run constraints, on land also are a concern. Forage is limited and produced primarily in the North and Northeast, often well away from production centers near major urban centers. Although the government has implemented a project to “turn poor farm land into forestry and forage land,” it will take time for the benefits of this program to be felt, and it is difficult to estimate how much land will actually be used to raise forage for dairy cattle. Compared to other countries, such as Australia, New Zealand and the United States, arable land is at a premium in China. Imports from countries with lower land costs will act as a constraint on the rate at which land in China is transferred into the production of forage and fodder for dairy cattle.

Most dairy companies increase their dairy herd through artificial insemination and live imports.

Some companies with better facilities have started using embryo transfer technology. Many more companies have shown interest in using embryo technology because it is less expensive and more convenient than importing live breeding stock. The main threat for foreign companies in embryo transplants is the Chinese government's support for domestic embryo projects. Third country competition for US dairy embryo transplants comes from Australia, New Zealand and Canada. In many cases these other countries' embryo exports have been promoted by expensive demonstration projects financed by their governments. The United States does not support demonstration farms.

PRODUCTION POLICY

The government's plan for dairy production in the 10th Five-Year-Plan (2001-2005) is to generally decrease powdered milk production and to focus increasingly on fluid milk production. It encourages dairy companies based in cities to put more effort into producing pasteurized milk, yoghurt, flavored fresh milk, UHT milk, UHT cream, and cheese. It also encourages dairy companies, particularly in traditional production areas removed from urban areas, to continue producing powdered milk, but to focus more on infant formula and other specific-function powdered milk products. The government's school milk program generally has been well implemented in several cities. Many other cities will join in this program. Most Chinese dairy experts think that after China joins the WTO powdered milk production will be affected more by greater imports than other dairy products because powdered milk imports will be very competitive with the domestic product.

PROCESSED DAIRY PRODUCTS

Production

Fluid Milk

Fluid milk production for 2000 was double that of the previous year. Out of the total, 55 percent was pasteurized milk, 25 percent was UHT milk, 12 percent was yoghurt and the remaining 8 percent was a variety of other milk drinks. Official statistics show that fluid milk production for the first half of 2001 went up 50 percent over 2000. The growth is expected to continue for the next couple of years. Large cities are the main consumers. In the cities, income growth is relatively rapid, and a better distribution system makes it convenient for consumers to obtain fresh milk. Therefore, China's increasing urbanization is helping boost fresh milk consumption.

The proportion of total fluid production given to UHT milk production was up 5 percent in 2000, primarily at the expense of pasteurized milk which dropped 4.5 percent. This shift is primarily explained by the school milk project which uses only UHT milk. There are about 100 UHT milk production lines in China. Most of them are not operated at full capacity. In China, UHT production costs are higher than those for pasteurized milk. However, UHT milk lasts longer and is easily transported, thus bringing the actual cost down below the cost of fresh milk in many markets.

The production of yoghurt and lactose-acidified milk drinks is witnessing good growth with a 19 percent share of total fluid milk production in 2000. Sanitary control is a concern. A recent random test by the government shows that about one-third of the products exceeded bacterial standards.

Ice cream production increased from 1.2 MMT in 1999 to 1.4 MMT in 2000. First quarter production has also witnessed a sizeable increase. Ice cream production is expected to grow in the next few years because ice cream consumption is becoming less seasonal.

Although powdered milk production increased in 2000, the rate of increase was much smaller than in the previous year. This reflects more raw milk being used for fluid milk production. More specialty powdered milk, particularly infant formula, is gradually replacing powdered milk production. As with yoghurt, quality is a concern. Sampling has found that around 40 percent of infant formula, mainly that produced by small companies, does not meet industry standards. Concerned, the government has instituted a licensing procedure for infant formula.

Consumption

Per capita consumption of milk is growing in China at about 5 percent per annum. Fluid milk consumption is growing more quickly than powdered milk consumption.

Urban residents are the main consumers of fluid milk. Beijing and Shanghai alone account for 50 percent of the total market. As urbanization continues, and as fluid milk processing technology, equipment, and packaging improve, further increases can be expected. In the future, these increases will come mostly from medium- and small-sized cities.

The Ice cream market can be divided into high-, medium- and low-quality sectors. Solely foreign-funded companies, or joint ventures with foreign companies, dominate high quality ice cream. Chinese state-owned companies tend to produce medium-quality, and township enterprises, low-quality ice cream

Trade

Imports of dairy products grew strongly in 2000. (Downward revisions in the PSD tables reflect revisions in the series.) However, sharply higher world prices have constrained growth in the first six months of 2001. Even so, imports for 2001 should equal last year's. With recent weakness in world prices, a year-end surge could even push imports significantly above last year's. Powdered milk and whey imports in 2001 took 90 percent of China's total dairy imports, while the share for the first half of 2001 rose to 95 percent. Whey imports are being supported by strong growth in feed demand. Barring any increases in prices, imports of powdered milk and whey are expected to continue to grow in the next couple of years. Fluid milk imports should also grow, but probably not as quickly as imports of powdered milk due to domestic competition.

After China joins the WTO, most Chinese dairy tariff rates will drop. By 2004, the yoghurt rate will drop from 50 percent to 10 percent. The rate for buttermilk, curdled milk and cream will

drop from 50 percent to 20 percent. The rate for butter, dairy spreads and other fats derived from milk will drop from 50 percent to 30-35 percent. Cheeses will drop from 50 percent to 12-30 percent. Chinese traditionally have not consumed much cheese and butter. However, as income and living standards rise, and western influences grow, these products are becoming more popular, particularly at foreign fast-food chain restaurants. Domestic butter and cheese consumption relies heavily on imports. Therefore, tariff drops in these product areas are particularly significant.

Hong Kong is by far China's largest export market for both fluid and powdered milk. With domestic demand so strong, it is very likely that Chinese dairy exports will continue to be restricted to donations, and to the Hong Kong market. In 2000, as has been the case for several years, China exported a significant amount of powdered milk to Iraq as a donation. During the first half of 2001, however, these exports dropped sharply

Marketing

Name brands are important in China particularly in the large cities. Foreign name brands are increasingly popular. Although prices of foreign products, such as Nestle, are higher than locally made products, they are popular because their quality is perceived to be higher than that of domestic brands. A newly introduced Nestle infant formula, which is touted as the closest among all infant formulas to mother's milk, has aroused great attention among consumers and Nestle's competitors.

Market shares for imported dairy products and domestically produced joint venture products have not changed much from last year. Intense competition among dairy companies will continue. These companies will continue to spend heavily on research to identify promising market segments and to develop new products.